CATTLE (PLEURO-PNEUMONIA).

RETURN to an Address of the Honourable The House of Commons, dated 13 April 1875;—*for*,

"COPY of the REPORT by Mr. CHAMBERS, V.S., of the Veterinary Department of the Irish Privy Council, on the Cases of PLEURO-PNEUMONIA among CATTLE recently imported from *Ireland* into *Norfolk*, investigated by him, along with Professor FERGUSON'S REPORT on the same Subject"

REPORT by Mr. *William Chambers*, V.S.

Sir, Dublin, 25 January 1875.

I HAVE the honour to report the result of my inquiry into the alleged outbreaks of contagious diseases amongst cattle exported from Ireland into Norfolk, having received a large amount of reliable information upon the subject from various sources, but principally from the clerk to the local authority at Norwich, whom I found most anxious to give me every assistance in the matter. As you are aware, a most extensive cattle trade is transacted weekly at Norwich, both in Irish and other cattle, which necessarily makes the county of Norfolk a great centre for the spread of contagious diseases, and, as the supply is almost solely from Ireland, public opinion naturally blames that country for the introduction of pleuro pneumonia, but I think not without a certain amount of prejudice.

Judging from the returns of the county received at the office of the Central Committee, little doubt exists but that Norfolk stockowners sustain heavy losses from disease in freshly purchased stock, and certainly some amount of suspicion rests upon Irish stock, as occasionally being the medium of introduction of pleuro-pneumonia. For, as you will see by annexed copy of inspectors' special reports, out of 178 outbreaks, 58 occurred within one month, 54 within two months, and 66 within three months from the date of purchase, apparently proving that many of the infected animals were incubating the disease when sold. But, in fairness to Irish cattle, I may state that we have no positive proof of the cattle in question being all directly imported from Ireland, although it is most probable that such was the case with the majority of those sold at Norwich, Lynn, Dereham, and Takenham markets.

And again we have to consider the doubtful question about the period of the incubative stage in pleuro-pneumonia, together with other peculiarities of the disease, for such strange incidents occur in practice, and such varied opinions exist with professional men and others, that it leaves little doubt that pleuro-pneumonia is a disease but imperfectly understood in the present day, which shows the advisability of adopting a well-conducted series of experiments, (of a more practical and extensive nature than those recently carried on in London), to further enlighten the profession upon the pathology of the malady.

My own experience, as well as that of others, proves that pleuro-pneumonia is seldom incubated less than three weeks, or more than two months. But, taking three weeks for the average, which period compares closely with the time between dates of purchase and outbreak, in many cases, in annexed list, a fact which shows some probability of Irish cattle being exposed to contagion, either in transit, or after their arrival in England. Although, I am perfectly aware that a diseased animal cannot be shipped at any of the Irish ports, unless

under very exceptional circumstances, nor is it likely that a case would be in that stage previous to shipment so as to break out on the passage.

I am further aware of the comparative freedom of cattle diseases in the country districts of Ireland, that is, so far as official reports and my own observations are to be valued. And again, under the existing regulations, there is little probability of healthy cattle coming in contact with others suffering from pleuro-pneumonia on railways, or in public fairs, or markets. Yet, with all these facts, lung distemper undoubtedly breaks out amongst newly purchased Irish cattle, within the admitted period of the incubative stage, from the date of embarkation, which proves that we have either more infected herds in Ireland than are officially reported, that exported cattle are exposed to contagion in transit, or, lastly, that we must dismiss a portion of the "contagion theory," and allow of the possibility of spontaneous origin under certain predisposing and exciting causes, together with idiocrasy on the part of certain animals. However, it certainly seems probable that many of the infected animals alluded to would have continued healthy, provided they had remained in their own country. Yet, I do not venture to form an opinion upon this point, but must confess that I fail to trace satisfactorily the true origin of the many outbreaks of pleuro-pneumonia amongst Irish cattle imported into England.

I may add that the weekly returns of the fresh cases of pleuro-pneumonia in the county of Norfolk are but small, considering the large number of cattle sold in Norwich and other markets, about five being the average of the last few weeks, although a much larger number were reported during the months of September, October, and November.

I also learn that many outbreaks originate in young stock, disembarked at Bristol for St. Ives Market, many of which find their way into Norfolk.

I have had many opportunities of inquiring into the sanitary condition of Irish cattle in the Midland Counties, purchased at Bristol, Hereford, and Gloucester markets, but can hear of no particular complaints against them in that part of England, but of course the cattle trade there is principally in home-bred stock, and as far as Herefordshire is concerned, neither pleuro-pneumonia nor foot-and-mouth disease is scarcely known.

Whatever blame may be attached to Irish cattle relative to introducing pleuro-pneumonia into England, they are, in my opinion, almost blameless in the introduction of foot-and mouth disease, for it is distinctly noticed by the inspector at Norwich that the cattle direct from the ports of disembarkation are always perfectly healthy, and, on the other hand, if they have previously stood another market, some of them will certainly show symptoms of disease, proving that the animals are exposed to the contagion in England.

So that there is little doubt that if cattle were exported from England to Ireland, the Irish stockowner would have more reason to complain than farmers in England have at the present day. And one thing is certain, viz., that England cannot do without Irish cattle, so that unless it becomes absolutely necessary, no further legislative measures must be adopted to restrict so important a branch of trade as the one in question.

In conclusion, I may state that the present system of branding animals at the ports of embarkation does not attain the desired object, and it would consequently be advisable to adopt an improved system.

Upon inspecting the Irish cattle at Norwich market, I was unable to detect that a single animal had been branded, the marks having been obliterated by some means. I also found that the inspector was almost ignorant of such a system being in use.

I am, &c.
(signed) *W. Chambers*, M.R.C.V.S.

To Professor Ferguson, H.M.V.S.,
Ireland.

Copy of Mr. Chambers' Prefatory Minute.

The Annexed List contains the dates of outbreaks of Pleuro-Pneumonia, amongst stock in Norfolk, the time of purchase of which is known; there were of course other outbreaks, but the date of the Purchase is not known from the papers in the hands of Local Authority.

County of Norfolk.

Where Purchased.	Date of Purchase.	Date of Outbreak.	Whether any Disease in the Locality.
Norwich	3 January 1874	1 March 1874	No.
Ditto	Nov. 1873	2 " "	No.
Hales, Norfolk	January 1874	3 " "	Yes.
Norwich	13 Dec. 1873	4 " "	No.
Ditto	6 Sept. "	5 " "	No.
Ditto	29 Nov. "	3 " "	Yes.
Ditto	Three months previous to outbreak	10 " "	No.
Lakenham, Norfolk	January 1874	8 " "	No.
Yorkshire	Dec. 1873	14 " "	No
Norwich	3 January 1874	14 " "	No.
Ditto	7 February "	21 " "	No.
King's Lynn	6 Dec 1873	23 " "	No.
Ditto	Nov. "	23 " "	No.
East Dereham	20 March 1874	23 " "	Yes
Hailesdon	Dec. 1873	17 " "	No.
Watton	20 Nov. "	28 " "	No.
Norwich	March 1874	1 April "	No.
Ditto	" "	" "	No.
Ditto	11 April "	16 " "	No.
Holt	" "	18 " "	No.
Wymondham	10 " "	18 " "	No.
Norwich	January "	20 " "	No.
Ditto	February "	21 " "	No
Ditto	January "	21 " "	No.
Ditto	28 March "	25 " "	No.
Ditto	25 April "	28 " "	Yes.
Ditto	" "	29 " "	No
Ditto	4 " "	29 " "	Yes
St. Ives, Hunts	" "	30 " "	Yes.
Norwich	28 February "	1 May "	No.
Wymondham	1 May "	13 " "	Yes.
Ely	About six weeks previous to outbreak.	17 " "	No.
Norwich	March 1874	19 " "	No.
Ditto	3 May "	21 " "	No.
Ditto	11 April "	22 " "	No.
East Dereham	22 May "	24 " "	No.
Norwich	23 " "	25 " "	Yes.
Ditto	11 April "	25 " "	No.
Ditto	25 " "	27 " "	No.
Ditto	" "	28 " "	No.
Melton Constable	1 May "	31 " "	No.
Old Buckingham	March "	4 June "	No.
Norwich	2 May "	5 " "	No.
Ditto	March "	6 " "	No.
Lakenham	30 April "	6 " "	No.
Norwich	28 March "	9 " "	No.
Ditto	Early part of May	9 " "	No.
Ditto	9 May 1874	9 " "	No.
Ditto	23 " "	11 " "	No.
Lynn and Norwich	About six weeks previous to outbreak.	14 " "	No.
Norwich	23 May 1874	14 " "	No.
Lynn	19 May "	15 " "	No.
Norwich	" "	15 " "	No.
Ditto	April "	15 " "	No.
Ditto	March "	16 " "	No.
Ditto	18 May "	16 " "	No.
East Dereham	29 " "	18 " "	No.
Elmham	15 " "	20 " "	No.
Norwich	June "	19 " "	No.
Ditto	2 May "	20 " "	No.
Ditto	2 " "	20 " "	No.
Ditto	25 April "	20 " "	Yes, but not within a quarter of mile.
Ditto	23 May "	21 " "	No.
Lenny	About eight weeks previous to outbreak.	22 " "	No.
Norwich	6 June 1874	24 " "	No.
Ditto	25 April "	24 " "	No.
Norwich	25 April 1874	25 June 1874	No.
Ditto	25 " "	27 " "	No.
Elmham	Three months previous to outbreak.	27 " "	No.
Norwich	21 February 1874	29 " "	No
Lakenham	April "	2 July "	No
Norwich	May "	4 " "	No.
Hillborough	About four months previous to outbreak	4 " "	No.
Norwich	6 May 1874	4 " "	No.
North Walsham	8 June "	6 " "	No.
Norwich	11 April "	6 " "	No
Ditto	9 May "	7 " "	No.
Thurning	28 March "	7 " "	No.
Winterthing	Middle of May	8 " "	No.
Norwich	About three months previous to outbreak.	11 " "	No.
Ditto	April 1874	12 " "	No.
Ditto	16 May "	12 " "	No.
Ditto	2 " "	14 " "	No.
Ditto	Six weeks previous to outbreak.	14 " "	No.
Ditto	About two months previous to outbreak.	15 " "	No.
Ditto	May 1874	15 " "	No
Ditto	About two months previous to outbreak.	15 " "	Yes.
Ditto	2 May 1874	18 " "	No.
Ditto	4 " "	19 " "	No.
Ditto	April "	20 " "	No
Morton	Three months previous to outbreak.	21 " "	No.
Norwich	Ten weeks previous to outbreak.	21 " "	No.
Ditto	2 May 1874	23 " "	No.
Lynn	26 " "	24 " "	No.
Norwich	March "	25 " "	No.
Ditto	18 April "	25 " "	No.
Ditto	6 June "	26 " "	No.
Browston	About six weeks previous to outbreak	24 " "	No.
Norwich	May 1874	26 " "	No.
Ditto	13 June "	27 " "	No.
Lakenham	May "	30 " "	No.
Norwich	16 " "	31 " "	No.
Wisbeach	About three months previous to outbreak.	2 August "	No.
Norwich	18 July 1874	3 " "	No.
St. Ives and Peterborough.	About two months previous to outbreak.	4 " "	No.
Norwich	Three months previous to outbreak.	5 " "	No.
Lynn	9 June 1874	6 " "	No.
Norwich	11 April "	6 " "	No.
Ditto	" "	10 " "	No.
Ditto	About six weeks previous to outbreak	13 " "	No.
Lakenham (brought over from Ireland)	Ditto	14 " "	No
Norwich	16 May 1874	17 " "	No.
Langley	June "	18 " "	No.
Norwich	About six weeks previous to outbreak.	21 " "	No.
Ditto	11 July 1874	23 " "	No.

Where Purchased.	Date of Purchase.	Date of Outbreak.	Whether any Disease in the Locality.
Brooke	About two months previous to outbreak.	27 August 1874	No.
Norwich	April 1874	28 „ „	No.
Ditto	4 „ „	28 „ „	Yes, about three-quarters of a mile from the Premises.
Norwich and Lynn	May 1874	29 August 1874	Yes.
Norwich	30 „ „	29 „ „	No.
Ditto	Four months previous to outbreak.	31 „ „	No.
Ditto	6 June 1874	6 Sept. 1874	No.
Ditto	July „	6 „ „	No.
Ditto	June „	7 „ „	No.
Ditto	Three months previous to outbreak.	12 „ „	No.
Ditto	June 1874	16 „ „	No.
Ditto	Three months previous to outbreak.	21 „ „	No.
Ditto	12 September 1874	21 „ „	Yes
Yarmouth	Two months previous to outbreak.	26 „ „	No.
Norwich	One month previous to outbreak.	27 „ „	No.
Ditto	Three months previous to outbreak.	30 „ „	Yes.
Lynn	6 October 1874	8 October „	No.
Thorpe Abbotts	25 June „	9 „ „	No
Brooke	One month previous to outbreak.	10 „ „	No.
Dickleburg	28 September 1874	13 „ „	No.
Norwich	Two months previous to outbreak.	13 „ „	Yes.
Ditto	September 1874	16 „ „	No.
Ditto	August „	17 „ „	Yes
Ditto	10 October „	17 „ „	No.
Ditto	28 May „	21 „ „	No.
St. Ives, Hunts.	June „	22 „ „	Yes.
Manby	About one month previous to outbreak.	23 „ „	No
Norton	1 September 1874	23 „ „	No
East Dereham	23 October „	24 „ „	No.
Hardley	Sept. 1874	27 October 1874	No
Norwich	19 „ „	30 „ „	No.
Ditto	10 October „	31 „ „	No.
Brixton	27 „ „	1 Nov. 1874	No
Norwich	One month previous to outbreak.	1 „ „	No.
Cawston	30 Sept. 1874	3 „ „	No.
Norwich	About three months previous to outbreak	4 „ „	Yes
Acle, Norfolk	Two weeks previous to outbreak.	4 „ „	No.
Norwich	3 October 1874	7 „ „	No.
Ditto	One month previous to outbreak	17 „ „	No
Ditto	24 October 1874	18 „ „	No.
Ely	One month previous to outbreak.	18 „ „	No.
Norwich	Sept. 1874	24 „ „	No
Cawston	Three months previous to outbreak.	24 „ „	No.
Norwich	15 October 1874	24 „ „	No.
Ditto	19 Sept „	27 „ „	No.
Lynn	Two months previous to outbreak.	28 „ „	No.
Thwaite, Norfolk	2 Nov. 1874	28 „ „	No
Bury St. Edmunds	11 „ „	2 Dec. „	No
Lynn	October „	5 „ „	No.
Norwich	Four months previous to outbreak	7 „ „	No
Ditto	October 1874	9 „ „	No.
Lynn	Sept. „	10 „ „	No
Norwich	Two months previous to outbreak.	11 „ „	No
Ditto	5 Dec. 1874	19 „ „	No
Ditto	Two months previous to outbreak.	24 „ „	No
Ditto	Two months previous to outbreak.	26 „ „	No
Ditto	Sept. 1874	3 January 1875	No.
Brooke	16 Dec. „	4 „ „	No.
Norwich	2 „ „	4 „ „	No

REPORT by Professor *Ferguson*, Director of the Privy Council Veterinary Department (Ireland).

Privy Council Veterinary Department (Ireland),
Pitt-street, Dublin, 21 March 1875.

In reference to the subject-matter of several reports, official and otherwise, stating, among other things, that to Ireland Great Britain is principally indebted for the repeated introduction into and continuance of pleuro-pneumonia in the latter country, I have the honour to report, for the information of the Government, that as a result of long, careful, and practical investigation into this question relative to pleuro-pneumonia, between the stock-holders and veterinary authorities of Great Britain and those of Ireland, I am unable to discover any reasonable grounds for coming to such a conclusion.

It is to be borne in mind that within the last two years no animal imported into Great Britain from Ireland, and becoming, after such importation, affected with pleuro-pneumonia, has been traced to have come from an Irish herd, farm, premises or place amongst, on, or in which such disease had existed, within the time usually accepted as the period in which the disease can be in a state of incubation in the system, although every facility is afforded by order of the Irish Government for such inquiries.

That

That many Irish cattle, on or after their importation into Great Britain, are more liable to contract contagious or infectious disease than native British cattle, can be easily understood, when the privations and hardships to which they are exposed during transit from the farms and pastures in Ireland on which they had been reared, to the farms or holdings in Great Britain receiving them as stores for feeding in confinement are taken into consideration, as well as the very different treatment to which they are there subjected from that to which they had received in Ireland on their native pastures. The more debilitated the animal system becomes from privation and hardship, such as those undergone by such Irish exported cattle during transit by steamships and railways, the more feeble are its powers of resisting the influence of infection or contagion, and the local causes of disease, whether infectious or otherwise.

Independent, however, of such predisposing causes of disease, it is a well-known fact that the collection of a large number of animals from their different native localities, within a confined space, into one place, such as on board ship or in a cattle-receiving pen, induces disease, particularly if the animals so collected are obliged, as in the cattle-crowded holds of cross-channel steamers, to respire impure air such as that which from want of ventilation has been several times used in respiration, and thus had its vitalising power consequently diminished.

The prevailing opinion as to three weeks being the shortest period during which pleuro-pneumonia can remain seemingly dormant and incubating in the system before it becomes recognisably developed, is fallacious. Animals bred and reared on or in a place where there never had been any disease, nor to which any strange animals had been introduced, have developed the disease within less than 10 days from their having been sent for sale to a public market, and brought back again from thence to such place, in consequence of not having been sold, although previously to such movement, and a day's exposure in the public market, they had not been in contact with any animals except such as had been bred on such place, and had not been even temporarily removed therefrom. It was not until subsequent to the year 1868, and only after a careful examination of all the ascertainable circumstances connected with some particular cases of pleuro-pneumonia which had come under my observation in the county of Dublin, that I had satisfactory evidence of an animal becoming recognisably affected with pleuro-pneumonia within 10 days after its exposure to the infection of that malady. But, between July 1868 and April 1870, the latter date being the time at which the Pleuro-Pneumonia Council Order was passed, many instances came under my own immediate observation of the disease having been brought from the Dublin Smithfield Market by and affecting an unsold cow, springer, or other bovine animal within 10 days immediately after its return to premises on which the disease had never hitherto existed, and on which, during upwards of a year previously, no strange animal had been introduced, and from which no animal except the one in question had been even temporarily removed. It is therefore my duty, while now dealing with the subject, to report, as a result of my own observation and experience, that the virus, infection, or whatever may be a direct cause of pleuro-pneumonia, when received into or first influencing the animal system, frequently has its effects developed sooner than within even so short a time as 10 days immediately subsequent to the exposure of the animal to the infection or contagion of the malady; although it must be admitted that in the great majority of cases of pleuro-pneumonia, resulting from infection or contagion, the length of time which elapses from the exposure of the animal to the exciting causes of the malady, to the period at which it becomes recognisably affected, is considerably greater, sometimes extending over a lapse of even very many weeks.

The frequency of the failures of attempting to intentionally produce pleuro-pneumonia in healthy cattle by experimentally exposing them to even prolonged contact with animals affected with that disease, should not be received as evidence of the malady not being infectious or contagious, the amount of evidence in favour of its being so being far too overwhelming to admit even of a reasonable doubt. It must, however, be admitted that pleuro-pneumonia, when contagious or infectious in its character, is much less so than foot-and-mouth distemper, a fortunate characteristic, taking into consideration the greater per-centage of its mortality, as well as the obscurity of its symptoms in the early stages, which

too frequently prevents its recognition being sufficiently timely for the efficacious adoption of isolation.

It appears, from a comparison of the Irish Veterinary Department Statistics relative to pleuro-pneumonia, with the statistical returns relative to that disease in Great Britain, which are courteously forwarded each week by Dr. Williams, the Secretary of the English Veterinary Department to the Irish Veterinary Department, that in the county of Norfolk alone there was a considerably greater number of certified reported outbreaks of cases of pleuro-pneumonia during the twelvemonths ended 6th March 1875, than there was in the entire of Ireland during the same period, the number of cases which occurred in Norfolk being 892, while the number of outbreaks which, according to the statistics in my possession, and on which, on the average, I have reason to rely, were reported and found to have actually occurred throughout the entire of Ireland, was 308.

Although compulsory slaughter and compensation may, in the estimation of many, form a greater inducement in Great Britain to report cases of pleuro-pneumonia as they occur, than exists in Ireland, on no reasonable grounds can it be concluded that such inducement, however great it may be, is sufficient to account for such a disparity between the number of cases reported as having occurred in Great Britain and in Ireland respectively, 7,018 in Great Britain and only 308 in Ireland. Neither are there reasonable grounds for believing that the Royal Irish Constabulary force, the non-professional machinery by which the Cattle Disease (Ireland) Acts, and the Council Orders passed thereunder, are principally carried out, are less successful than the police of Great Britain in detecting and dealing with the occurrence of disease, the police force in Ireland being much more perfectly organised and not subject to the varying discretion of local authorities, as are the police forces of Great Britain. The entire of the police force in Ireland is under the control of Government, and, in pursuance of the provisions of the Cattle Disease (Ireland) Acts, and of special Government Orders, its members are continually on the alert for the discovery or detection of non-reported outbreaks or cases of infectious or contagious animal diseases. Taking these points into consideration, it is unlikely that a much greater per-centage of non-reported cases of infectious or contagious cattle disease escapes detection in Ireland than in Great Britain, and it is quite impossible, under the circumstances, that such an almost immeasurably greater amount of cattle disease could exist in Ireland than in Great Britain, as is, although most erroneously, believed by the stock-holding classes of the latter country.

So far from the herds of Ireland being at present, or having been of late years, in an unhealthy state, when compared with the general sanitary state of cattle in Great Britain, quite the contrary is the actual state of the case; a fact which has been ascertained by a careful and impartial investigation.

A so much greater number of outbreaks and of cases of pleuro-pneumonia occurring in Norfolk than in any other county in Great Britain, and the animals attacked being in the great majority of cases Irish, have naturally assisted in creating the impression so prevalent among English stock feeders, that the affected animals must have brought the disease with them from infected herds in Ireland. But although the fact cannot be refuted that the animals attacked were principally Irish, yet, on the most careful investigation, even under the most favourable circumstances for obtaining information relative to their sanitary state and all matters connected with them previous to their exportation from Ireland to Great Britain, no reasonable grounds could be discovered for even suspecting that they had been infected or exposed to infection previous to such exportation. It was therefore deemed desirable to carry the inquiries into Norfolk, with which view Mr. William Chambers, one of the inspecting staff belonging to the Irish Privy Council Veterinary Department, and who is intimately acquainted with agricultural pursuits, and the mode of dealing with diseased and other animals in Norfolk and other English counties, was, on the 12th of January 1875, sent over to Norfolk to personally inquire and report upon the sanitary state of Irish animals when exposed for sale at the Norwich and other markets, and when subsequently being kept on the farms or premises of their purchasers. A copy of his report is annexed. Although replete with carefully collected facts, and, if viewed abstractedly, tending to confirm the opinion widely prevailing in England relative to the sanitary state of imported Irish cattle, yet a contrary conclusion appears inevitable if due weight is given

to

to additional evidence procured not alone from other reliable sources, but also from his own subsequent report of the 19th March 1875, a copy of which is also annexed, relative to the manner in which cattle are fed and kept in Norfolk, and that certain well ascertained and generally admitted facts and recognised laws of nature are carefully considered. A consideration of the following extract from a communication of the 9th December 1874, received from Messrs. Verdon and Cullen, of Liverpool, the most extensive Irish cattle salesmen or agents and importers in Great Britain, partly led to the decision to send an inspector from the Irish Veterinary Department to Norfolk to personally investigate into the matters to which it referred, so far as they related to that country:—

"Liverpool, 9 December 1874.

"In Norfolk the disease exists almost always, owing to the manner in which the animals are kept. They are put into covered boxes, and the 'excreta' of the beasts is allowed to accumulate until the animals are brought out to market fat; sometimes this is two, three, four, six, eight, or even ten months. This, of course, is very unhealthy. The excreta kneaded into a consistency by the animals' feet is termed 'bullock pudding,' and is highly recommended as a manure by such men as Mr. Mechi, Lord Kimberley, and others. It is much better than uncovered farmyard manure. But this result is attained at the cost of the health of the animals. A few years ago the cattle of this town were very much affected with lung disease. The usual hue-and-cry was made against Irish cattle. But the medical officer of health turned his attention to the facts. The cowhouses were cleansed and disinfected; no cattle were allowed to be kept within the borough, except with a license, and a guarantee that necessary sanitary precautions should be adopted. There are now licenses for 5,000 cattle within the borough, all healthy and all Irish, and moreover 200,000 Irish cattle pass annually through the borough, yet there are no cases of disease. These facts speak volumes for the health of Irish cattle.

"(signed) *Verdon & Cullen.*"

On the 19th of March 1875, Mr. William Chambers, in obedience to instructions, submitted a further report relative to the manner in which cattle were generally dealt with as fattening "stores" in Norfolk, a copy of which is annexed. It would appear from this report that, in Norfolk, it is the practice to put, as soon as possible, the store cattle intended for fattening into well littered and sheltered yards, covered stalls or boxes, constructed often by being fitted and having their ground surfaces and sides particularly adapted for the purpose, so as intentionally to prevent any drainage, and thus to retain even the urinary, along with the other excretations of the animals confined therein, and that, as Mr. Chambers describes:

"During the stall-feeding season, which continues about seven or eight months, the manure from the yards, stalls, or boxes, is not, as a rule, moved more than once, that is, when the farmer requires it for the wheat crop, about the latter part of October or the beginning of November; and again, in the following spring, for the root crops, after the cattle are disposed of; and that, during such length of time of the cattle being so circumstanced and being fattened, the feeding troughs have to be raised by chains and hoops according to the height to which the manure accumulates."

As well might human beings imprisoned for months together in cesspits or cesspools, or in reservoirs for the accumulation of their fecal, urinal, and other secretions, standing or lying continuously on such accumulations of their own excrements, constantly inhaling the pestilential emanations from their own ordure, fresh as well as stale, or in a state of fermentation or decomposition, be expected to continue, or be in such a vigorous state of health as not alone to resist diseases, but also to increase in healthiness and flesh, as that it could be reasonably expected that cattle, treated as they are in Norfolk, no matter from whence they come, could invariably remain in a sound or healthy state; not even the proverbial hardiness of Irish cattle can always successfully resist such disease-engendering or exciting influences. It is much to be regretted

that legislation, based upon the recognised principles of sanitary science, has not as yet, in the interest of the public welfare, extended to food-producing domesticated animals the same degree of sanitary protection as is already enjoyed by the human population of Great Britain; and I have the honour to most respectfully submit that, until such is the case, it would be unreasonable to hope or trust that the occurrence of pleuro-pneumonia in Great Britain, particularly in the county of Norfolk, will be diminished to an extreme minimum.

As to the prospects of contagious or infectious bovine pleuro-pneumonia being thoroughly stamped out of or eradicated from Great Britain, I regard it as quite an impossibility as long as—what is an absolutely imperial and national necessity—the importation of cattle from abroad continues. Under existing circumstances, the most that can be done is to diminish the evil.

It has been too much the habit to treat the important subject to which this report relates in a sensational manner, particularly by certain sections of the English and Scotch agricultural press and chambers; but, if prejudice be set aside, and all the circumstances of the question involved dispassionately and impartially investigated, the result of such investigation cannot be otherwise than immeasurably in favour of the sanitary state of agricultural live stock in Ireland, when compared with that of British stock of the same kind, particularly in the county of Norfolk.

Mr. Chambers, at the conclusion of his report of the 19th of March 1875, referred to the fact that the second lots of cattle which are purchased during the year in Norfolk, almost invariably do well, and scarcely ever suffer from disease. As Mr. Chambers observes, the practice is to feed these cattle with turnips, thrown about the stubbles, until the weather becomes severe, when they are placed in littered yards and kept upon refuse roots, hay, and barley straw, until the end of April, then pastured, during the summer, on marsh lands, for the next season's stall feeding. The fact that the Irish store cattle thus treated, rarely become diseased must be regarded as strong evidence against the allegation that lung-distempered Irish cattle, in Norfolk, bring the malady with them from Ireland, and in favour of their having contracted it in consequence of the disease-developing influences to which they are there subjected, and which are inseparable from the present system of indoor cattle feeding in Norfolk, by which the functional and organic health of the animal is so frequently impaired, or even fatally sacrificed, to an increase in the quantity, and an improvement in the fertilising properties of its manure products.

Hugh Ferguson,
Director of the Privy Council,
Veterinary Department (Ireland).

To the Under Secretary.

REPORT by Mr. *William Chambers,* V.S.

Sir Dublin, 19 March 1875.

In reply to your question relative to the management of cattle in Norfolk, I beg to state that from the fact of the county being almost solely under cultivation, the system adopted differs in several ways from that of other counties. The usual method being to buy store cattle (invariably Irish) at the most convenient markets about the months of August, September, or October, when they are often at first turned into the harley stubbles (if there is a good growth of young grasses) for a week or two, and if then free from foot-and-mouth disease, which frequently breaks out, are then put either into well-littered and sheltered yards, or in stalls or boxes. The feeding depends upon the class of cattle, and when required for market, or perhaps upon the farmer's means. But, as a rule, stock owners commence with an unlimited supply of sliced white turnips, with a mixture of cut hay, meal, linseed or cotton cake, the quantity of the latter ingredients varying according to circumstances. When the white turnips are finished, swedes are then used, and followed by mangold wurzel, or sometimes mixed. Under this system of management cattle are generally fit for market in about four months, but the stall-feeding season continues about seven or eight months, during which time the manure from the yards, stalls, or boxes,

boxes, is not, as a rule, removed more than once, that is when the farmer requires it for the wheat crop about the latter part of October and beginning of November, but again in the spring for the root crop, after the cattle are disposed of. During this time the feeding troughs are raised by chains and hooks according as the manure accumulates.

A second lot of smaller cattle are frequently purchased by Norfolk farmers and fed with turnips thrown about the stubbles, till the weather becomes severe, when they are placed in a littered yard and kept upon refuse roots, hay, and barley straw until the end of April, and afterwards pastured on marsh lands during the summer and kept for stall feeding the next season. These cattle invariably do well, and scarcely ever suffer from disease.

I am, &c.
(signed) *W. Chambers.*

To Professor Ferguson, H.M.V.S.

CATTLE (PLEURO-PNEUMONIA).

COPY of the REPORT by Mr. CHAMBERS, V.S., of the Veterinary Department of the Irish Privy Council, on the Cases of Pleuro-pneumonia among CATTLE recently Imported from *Ireland* into *Norfolk*, investigated by him, along with Professor FERGUSON'S REPORT on the same subject.

(*Mr. James Barclay.*)

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